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ABSTRACT

Using an outline format accompanied by numerous photographs and sketches, this brochure explores the relationship of "school" to people's conceptions, actions, and physical surroundings, highlighting changes over the past 20 years in Scandinavian school design. Two major conceptual changes are decentralized administration and teaching and learning situations emphasizing teamwork and development of the whole person. Changes in activities and physical environment are also summarized, along with "quality" effects, such as (1) a smaller-scaled, more confidential environment; (2) greater flexibility in learning and teaching interactions; and (3) the opening of schools to the community. A close examination of teacher and student attitudes reveals that school as an institution mediating knowledge contributes much less to students' well-being than school as a social system. Architects and planners must realize the importance of relationships beween people and create functional and inspiring places supporting their work and social life. While architecture can do nothing to help poor teaching, without good architecture, learning and teaching are slowed down. Architecture's role is to accentuate the quality of places, to cultivate sensory awareness, and to interpret and communicate institutional values in time and place. Complementary requirements of architectural design, restraints for school architecture, and architecture's contribution to human development and the educational process are also discussed. (MLH)

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ARCHITECTURE AS A QUALITY IN THE LEARNING AND TEACHING PROCESS

by prof.arch. Birgit Cold, the University of Trondheim, Norway 1986

edusystems 2000

INTERNATIONAL CONGRESS ON EDUCATIONAL FACILITIES — VALUES & CONTENTS
Jerusalem, Israel • November 16-21, 1986

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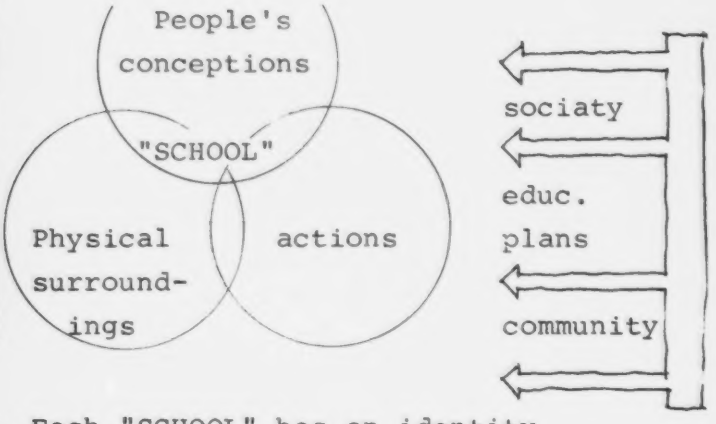
DEFINITION OF "SCHOOL"

The "SCHOOL" as a CONCEPT in PEOPLES's minds is about:

- ACTIONS and relationships between students and teachers
- taking PLACE in certain remembered PHYSICAL SURROUNDINGS (buildings - rooms -)



Each "SCHOOL" has an identity which is the relationship between conceptions - actions - physical surroundings.

People's - students and teachers - conceptions of the behaviour in the physical environment are built on their own experiences and on those gained by generations.
When one of these three factors changes the "SCHOOL" changes.
The main goal for changes is to have a "SCHOOL" of higher quality.

THE CHANGES AND THE QUALITIES DURING 20 YEARS

Changes in administration.

Loddefjord School. arch. CUBUS

In many countries the centralized planning and development changed slowly and became more decentralized. The central administration and power was deligated to districts and municipalities, Schooldemocracy was developed.

The quality is the delegation of central power to more local responsibility and initiative.

Changes in educational plans.

Loddefjord School arch. CUBUS

The new plan developed in Scandinavia during the 70ties were focused on

* Varied teaching and learning situations related to the students abilities and interests.

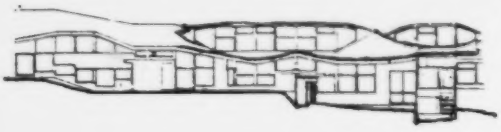
* Teamwork among teachers and among teachers, students and parents.
  - including contact with neighbourhood, community and the world outside the school.

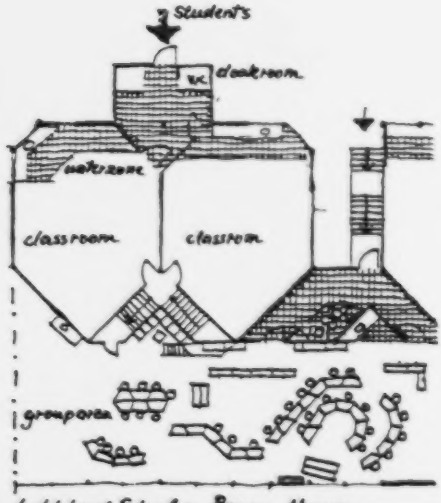
Loddefjord School arch. CUBUS

* Development of the whole person involving also the ethical, aesthetic and creative aspects.

The qualities are:
- the increased weight on developing each student, and all sides of the student.
- the learning of working together

the secondary School in Gimstad Sweden





Loddefjord School in Bergen, Norway arch. "CUBUS"

Loddefjord School. arch. CUBUS

THE CHANGES IN ACTIVITIES AND PHYSICAL ENVIRONMENT

From centralized large schools
to decentralized smaller schools.

From schools for students only
to community centers for formal and informal education and social activities.

From teacher directed teaching in closed classrooms,
to individual and grouplearning in open flexible areas.

From teaching separate subjects in specialized rooms
to an intergrated curriculum with a focus on projects in spaces with different activity settings and facilities.

From focussing teaching and controlling in buildings with one entrance, corridors and locked rooms
to focussing a confidential and secure atmosphere in a smallscaled environment with identity.

From 45 min, class sessions and breaks spent in a central airing court
to larger teaching and learning modules with varied free time periods spent indoors or outdoors in designed spaces for recreation and social activities.

The qualities are:

- the smaller scaled and more confidential environment.
- the wider perspective and greater flexibility in the learning and teaching situations.
- the opening up of schools to community.

TEACHERS EVALUATION OF THE CHANGES

In a broad investigation in the 70ties in Norway, 70% of the teachers were satisfied with their schoolbuildings, especially those in small (less than 400) and open plan schools.

Out of 10 factors dealing with interrelationships in the school and between school and sociaty, the 3 priorities for a good school to be in were:

* motivated students
* good and pleasant working relationships among teachers.
* good cooperation with parents.

The 3 most often cited problems were:

* new directives
* a stressful schoolsituation with large classes
* unmotivated students

Another investigation among students tells us that they relate good experiences to social and informal activities and unpleasant ones to bad and unjust treatment from the teacher.

The investigator concludes:
That the SCHOOL as an institution mediating knowledge contributes much less to the students well being than the SCHOOL as a social system.

The conclusion of these investigations for architects and planners is:

* to be aware of the great importance of the relationships between people and therefore create "PLACES FOR PEOPLE", not only functional, but inspiring "PLACES" with quality and identity supporting the work and social life.

THE LANGUAGE OF THE "SCHOOL"
TELLING ABOUT THE CHANGES

All buildings and places speak a language which tell us about:

* the institution and organization
* its values and priorities
* its development and future
* how sociaty, builders and architects played their roles.

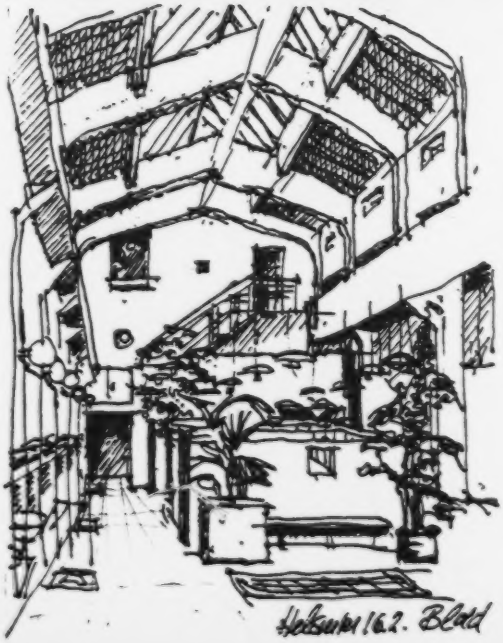
SCHOOLS'S do that whether it is planned or not.

- they do it openly and readably
- or hidden and incomprehensible

"OLD SCHOOL'S" tell us that
"Knowledge is power"

Schools after the war until the 60ties tell us about:

* great need of expansion
* quantity more important than quality
* industrialized building methods with repititions of form, space and materials
* economic limitations.



The 60-and 70ties schools tell us about:

* greater concern about learning and teaching
* more individuality and smaller scale
* growing economic wealth

The 80ties schools tell us about:

* more interest of form, space and materials
* more reuse and rehabilitation of existing buildings
* more concern about social spaces

The 90ties schools should communicate

* intergration of school and community
* ecology as an educational factor
* users participation in the process
* the quality of sensory awareness

THE ROLE OF ARCHITECTURE IN THE "SCHOOL"

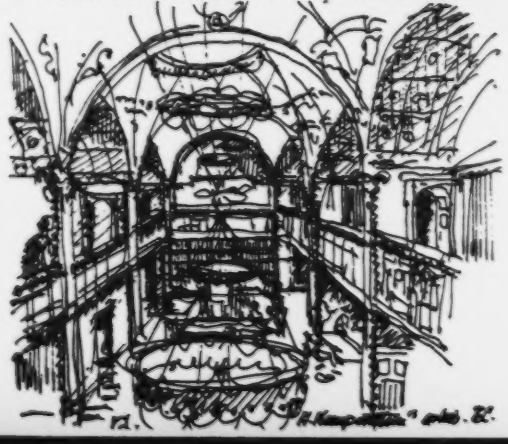
* Architecture - per se - cannot create a good learning and teaching situation - but people can
* Teachers and students cannot create good architecture - but they can participate
* Without good architecture, functional and aesthetic, learning and teaching are slowed down.
* Against poor learning and teaching good architecture doesn't help.

3 educational main goals:

* to emphasize varied learning and teaching situations
* to strengthen teamwork and co-operation
* to develop the whole person.

3 duties of architecture for learning and teaching:

* to accentuate the quality of "PLACES" for known and unknown activities
* to cultivate sensory awareness
* to interpret and communicate the values of the institution in time and place.



3 groups of means of architecture:

* space, form and light
* structure, technology and ecology
* materials, textures and colours.

4 COMPLEMENTARY REQUIREMENTS OF DESIGNING ARCHITECTURE

(not the either-or model, but the both-and-model)

---

a. to design spaces for specified activities
b. and "open-ended" spaces for spontaneity, informal activities, fantasy and poetry

a. to design with user participation
b. and to design unity with variations

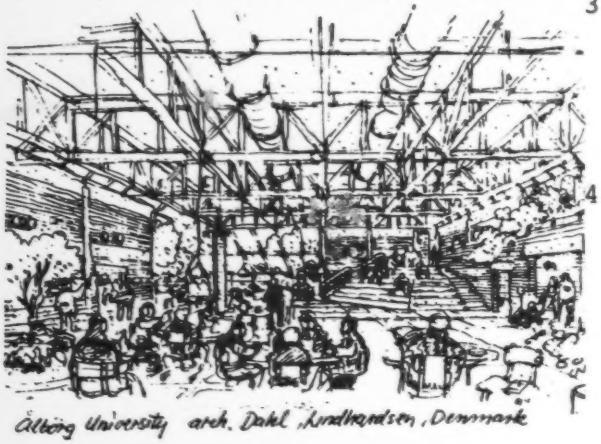
a. to design flexibility
b. and create a specific character

a. to design for community activities
b. and create an inviting environment with identity and security

1

Wellemspark School. arch. H. Hertzberger, Holland

2



3

Aalborg University arch. Dahl, Lindhardsen, Denmark

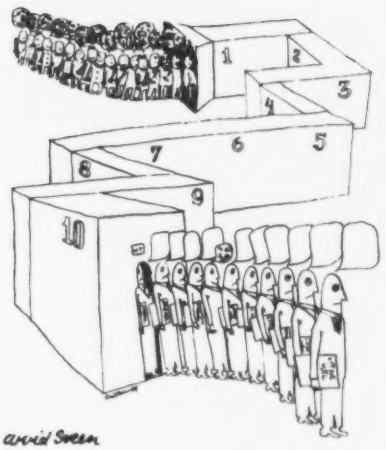
4

Grimstad by School and Community, Sweden

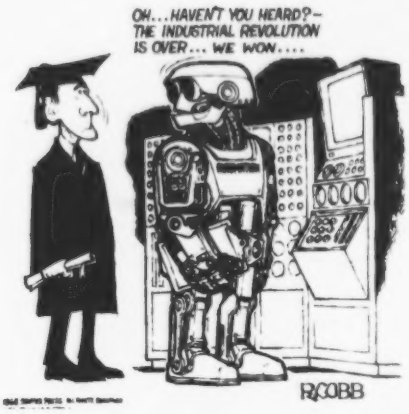
* All the a-requirements can be specified and evaluated.

* All the b-requirements are difficult to qualify because of the psychological, artistic and aesthetic concent.

RESTRAINS FOR CREATING AND USING ARCHITECTURE IN SCHOOLS



arvid Sveen



Eelland School arch. A and J. Holden Norway

* Traditional interpretations of the role of the SCHOOL.

* The increased responsibility of the teachers for the total breeding and development of students, large classes and less money causes pressure and stress.

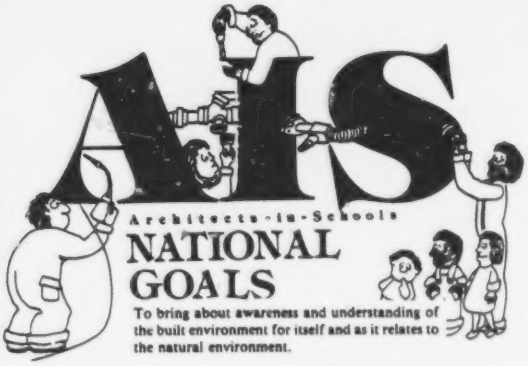
* Government officials and politician's lack of awareness and understanding of the importance of architecture as an aspect of the learning and teaching process.

* Because of the pressure from construction firms, architects do not spend enough time understanding the SCHOOL's requirements nor in creating the best possible architecture.

* The general public notion that architect-designed buildings are very expensive and not really needed.

* The teachers training does not emphasize the importance of the built environment and the interrelationship between architecture and people.

ARCHITECTURE AS A CONTRIBUTION TO HUMAN DEVELOPMENT AND TO THE LEARNING-TEACHING PROCESS. POSSIBILITIES AND SOME EXAMPLES


AIS
Architects-in-Schools
NATIONAL GOALS
To bring about awareness and understanding of the built environment for itself and as it relates to the natural environment.
To use the built environment as the vehicle for understanding and teaching of the traditional academic subjects within the existing curriculum.
To be a resource for students and teachers, learning and teaching about the built environment.
To help students and teachers analyze their surroundings and to help plan and carry out changes.
To involve students and teachers in the design process by bringing the methods of design into the school.
To participate with students and teachers in a project with a visible product.
To develop a continuing involvement of the community and school using the built environment as a focus.
To insure continuity by passing on to the teachers some of the architect's tools, special skills and knowledge.

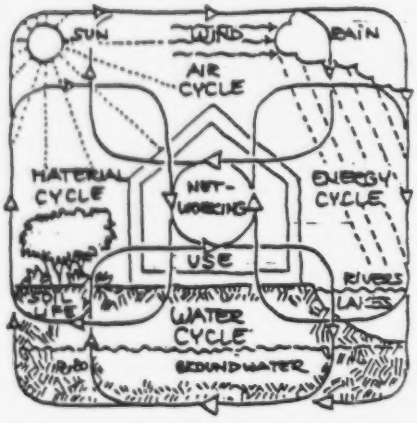
* Architecture as a support for learning and teaching of required subjects in the public school and in the community education.

ex: The "ARCHITECTS-IN-SCHOOL" program in USA by prof. AASE ERIKSEN.

* "BUILT ENVIRONMENT EDUCATION" program developed and offered to all decision makers, planners,communities and users of educational facilities.

ex: "Students, Structures, Spaces" by prof. AASE ERIKSEN AND MARJORIE WINTERMUTE.

ex: The Architects Associations in Scandinavia are working out such programs "The things around us-architecture" by ARCH. LARS HEGELUND, DENMARK.



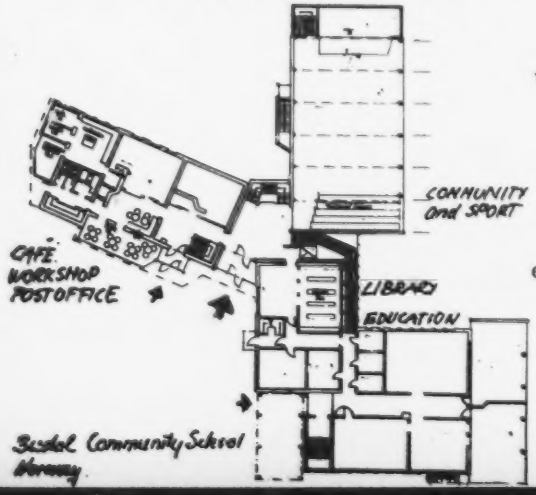
NETWORK SYSTEMS

* Information in media

ex: Education of architects for working in media.

* Provide models for and support projects where architecture, ecology and user participation are taken into account.

ex: "Building Schools as a learning resource for Science and Technology Education", A · Unesco and UIA·report by Dr. Margrit Kennedy.



* Provide models for and support intergrated projects for formal and informal education and community activities for all ages.

ex: Budal Community School by Sintef div.of Architecture and Building Technology

The Community Schools in USA, UK, Nederlands.....